Emergency Preparedness (IPAC)

Outbreak Plan: Communicable diseases/ Epidemics /Pandemics Plan: Riverview Gardens LTC (July 2022)

IPAC Emergency plan Requirements

In addition to the regulatory requirements applying to all emergency plans, under ss. 269(1) of O. Reg. 246/22, emergency plans for communicable diseases, diseases of public health significance, epidemics, and pandemics must also include:

• Identification of an area of the home used for isolating residents,

• A process to divide staff and residents into cohorts,

• Staffing contingency plans to ensure continuity of all required programs under the Act and regulation,

• Policies to manage staff who may be exposed to infectious disease,

• A process to manage symptomatic residents and staff, and

• A process for assembling an Outbreak Management Team, including identification of members and their roles and responsibilities.

Background

Disasters are one type of emergency. Although small emergencies may be managed by a handful of individuals or a single facility, a mass casualty event requires communication and coordination among many responding departments and agencies. This makes disaster preparedness more difficult.

Advance planning and practicing emergency management plans are essential to an effective response.

There are many types of disasters that may potentially affect healthcare, and they can be divided into two categories by source:

- those caused by natural forces, such as floods, earthquakes, hurricanes, and emerging infectious diseases; and
- Those resulting from intentional or unintentional man-made events, such as traditional, biological, chemical, nuclear, or radiological emergencies. Another way of categorizing mass casualty incidents is by the nature of the event in terms of whether it involves an infectious disease.

Noninfectious disease disasters include all natural and man-made events that do not have an infectious agent as the source of the incident. Examples include hurricanes, floods, earthquakes, and all forms of terrorism except bioterrorism.

Infectious disease disasters include all events that involve a biological agent/disease, such as a bioterrorism attack, a pandemic, or outbreak of an emerging infectious disease. The response will vary from incident to incident, because each mass casualty incident poses unique risks to communities and therefore requires situation-specific interventions. However, the basic principles of emergency management remain the same for all types of mass casualty incidents. All disasters have potential infectious disease implications, but infectious disease disasters pose the greatest risk to communities in terms of disease transmission.

IPs will be needed for planning for all types of disasters, but their involvement will be most critical for infectious disease disasters.
The potential consequences of a mass casualty event depend on many factors, including the community's social, economic, and baseline health status; the type and scope of incident; and the community's level of advance preparedness. Potential consequences of disasters are best mitigated and decreased by engaging in preparedness initiatives. These include the following: (1) developing an emergency management plan, (2) educating responding individuals/agencies about the plan, (3) practicing the plan, and (4) evaluating the facility of preparedness.

Emergency Management

Disasters should be planned for and responded to using the principles of emergency management. Emergency management is composed of four principles: mitigation, preparedness, response, and recovery.

MITIGATION

Mitigation describes actions taken to decrease the potential impact of a situation. These include interventions to either prevent or reduce morbidity and mortality and ease the economic and social. Mitigation interventions can range from new policies or laws related to mass casualty incident assistance funding for floods or hurricanes to new laws related to the use of smallpox vaccine for a potential bioterrorism attack. A stronger public health infrastructure will ensure a more rapid and effective response, which in turn will decrease the negative impact of a disaster. Putting shutters on houses in areas at risk for hurricanes and elevating houses and appliances in flood plains are examples of mitigation interventions that can decrease the impact of a potential mass casualty incident.

PREPAREDNESS

Preparedness is both a phase and the measures taken during this time. As a phase, preparedness refers to the time before an emergency occurs, measures are those taken before an event that better prepare an individual, facility, or community to respond to an emergency. These include such interventions as developing a facility emergency management plan and educating the workforce to implement such a plan. In addition, practicing and evaluating the emergency management plan helps ensure the best response to a true mass casualty incident.

RESPONSE

Like preparedness, response refers to both a phase and the activities implemented during this time. As a phase, response refers to the time immediately after an emergency is detected. Response activities include interventions undertaken in response to a known or suspected event. During the response phase, personal and facility emergency management plans are implemented. In large disasters, community, regional, and federal emergency management plans may also be implemented. The response will depend on a number of factors, including the type and scope of the mass casualty incident and how rapidly the event is identified. Each mass casualty event poses unique challenges and requires individualized interventions. However, basic infection prevention and epidemiological principles remain the same, regardless of the type and scope of the disaster.

RECOVERY

Recovery refers to both a phase and interventions implemented during this time period. As a phase, recovery refers to the period after the emergency has been declared over. During the recovery period, the facility implements interventions necessary to return to its pre disaster baseline (i.e., recovery interventions).

Recovery activities will include the following:

- establish short- and long-term goals to return facility or community to pre-event baseline,
- evaluate emergency management plan implementation and gaps identified during response,
- determine potential solutions to identified gaps in emergency management plan,
- update emergency management plan to reflect lessons learned,
- educate staff on changes in emergency management plan, and
- Practice new emergency management plan. This will include replenishing stocks of medical equipment and supplies and returning to daily activities and routine reporting structures.

The disaster recovery phase involves the implementation of tertiary prevention strategies. It is vital that healthcare facilities use an all-hazards approach to emergency management. This means that a facility emergency management plan must be able to accommodate all types of potential mass casualty incidents, from natural to man-made. In addition, the emergency management plan must address disasters that involve a

communicable disease, such as an outbreak of an emerging infection or a bioterrorism attack using an infectious agent.

Emergency management is a multidepartment, multiagency endeavor that requires coordination and communication among many groups to be most effective. It is essential that IPs participate in all aspects and phases of the emergency management process to decrease the mental health impact, costs, morbidity, and mortality related to mass casualty incidents.

PHASES OF A DISASTER

All disasters consist of four phases: (1) preparedness, (2) impact, (3) response, and (4) recovery.

Preparedness Phase:

Refers to the time before a mass casualty incident occurs. During this phase, there is no immediate anticipation of disaster in the near future; the length of this phase is indefinite. In some mass casualty incidents, the preparedness phase may include a warning period, during which a disaster is anticipated. Warning phases vary in length, depending on the type of mass casualty event. This may mean a day or two warning for hurricanes, hours for floods, minutes for tornadoes, or no immediate warning for earthquakes or acts of terrorism.

Impact phase:

Includes the time while the actual mass casualty incident is occurring. This time period can vary from seconds for an earthquake to weeks for a flood. Activities undertaken during the impact phase vary, depending on the duration of this phase (seconds to weeks) and whether or not the event is immediately detected.

In a covert bioterrorism attack, for instance, the release is likely to be detected only when patients become ill days to weeks after the event, making it impossible to implement interventions during the impact period.

Response Phase:

Begins at varying times, depending on the type of disaster and when the event is detected. In some disasters, such as a flood or hurricane, the response will most likely begin in conjunction with the impact phase. In other mass casualty incidents, such as a bombing or earthquake, the response phase will begin immediately after the impact. It is also possible for the response phase to begin long after the impact is over.

An example is a covert bioterrorism attack using an agent with a prolonged incubation period, such as smallpox. In this situation, the impact phase of the event (the release of aerosolized Variolav irus) would end almost 2 weeks (i.e., the incubation period of smallpox) before the event is likely to be detected. Regardless of when the response phase begins, it consists of interventions necessary to cope with the immediate effects of the disaster. In most mass casualty incidents, more injuries occur in the response phase, during rescue and cleanup efforts, than in the impact phase.

Recovery Phase:

Final Phase that begins after the mass casualty incident has been officially declared over and no additional victims are likely to be rescued. In some disasters, the switch from response to recovery may be clearly delineated.

For example, for most collapsed structure disasters, recovery efforts begin around 72 hours after the impact because it is rare for victims to survive and be rescued after that point. In other disasters, recovery activities may begin during the response phase, without a clearly defined message that the facility or community has completed the response.

INFECTIOUS DISEASE IMPLICATIONS OF DISASTERS AND MASS CASUALTY EVENTS

Communicable disease outbreaks are widely feared after disasters. Studies that examine the epidemiological impact of communicable diseases following mass casualty incidents find that the impact varies, depending on the situation.
Outbreaks that occur after natural disasters often result from population displacement, such as overcrowding in community shelters, and lack of clean water or sanitation. infectious disease outbreaks following a disaster are if occur usually involve skin, gastrointestinal, or respiratory infections.

Examples:
The norovirus outbreak in a community shelter during Hurricane Katrinaand the doubling of infectious diseases (namely pneumonia and skin infections, including tetanus) among hospitalized patients following the 2011 Great East Japan Earthquake and tsunami, endemic pathogens, zoonotic diseases, and foodborne illness. Zoonotic illnesses and vector borne diseases increase after natural disasters due to wild and domesticated animal displacement that occurs in conjunction with human displacement, and because vector control measures may be temporarily halted.

Outbreaks of Hepatitis A, cholera, typhoid fever, and diarrheal illness have all been reported after natural disasters and are largely due to poor sanitation, improper food handling, and lack of healthcare access, though rainfall and other environmental factors may also play a role.

One of the largest infectious disease outbreaks ever associated with a natural disaster occurred after the 2010 Haitian earthquake. Almost 1 year after the earthquake, an outbreak of cholera occurred in Haiti, with devastating outcomes. That outbreak accounted for over half of all cholera deaths in 2010 and was associated with more than 600,000 cases of cholera and over 7,000 deaths.

There is a pervasive fear about potential infectious disease outbreaks caused by exposure to disaster victims' dead bodies, outbreaks of cholera, viral hemorrhagic fevers, or smallpox, any of which could put people at risk from disease from exposure to victims' dead bodies if precautions are not taken.

Following any type of mass casualty incident, bodies of dead humans should be handled using appropriate infection prevention precautions and personal protective equipment (PPE) to prevent infection transmission.

Infectious disease disasters, such as a bioterrorism attack, outbreak of an emerging infectious disease, or pandemic, have the greatest potential for causing infection-related morbidity and mortality of any type.

EMERGENCY MANAGEMENT PREPAREDNESS

Preparedness is the process of becoming better prepared to effectively recognize and respond to a mass casualty incident. This process consists of pursuing emergency management education, gaining knowledge on emergency management, planning and practicing response behaviors, and evaluating your level of preparedness.
The first step in the preparedness process is gaining knowledge through pursuit of education on emergency management.

Educational topics include the following:

- How to develop an emergency management plan
- What to include in an emergency management plan?
- Individuals/groups to include in the planning process,
- How to conduct a facility assessment,
- Resource assessment,
- Designing and implementing an exercise or practice program, and
- How to evaluate the level of preparedness of an individual, or facility.
  In addition, some disaster-specific information is required, such as information on floods, hurricanes, earthquakes, chemical and biological terrorism attacks, emerging infectious diseases, and pandemics.

RVG EMERGENCY MANAGEMENT [A process for assembling an Outbreak Management Team, including identification of members and their roles and responsibility]

A facility emergency management plan is a plan a healthcare facility would implement during or after a mass casualty event. Facility emergency management plan development is a multidiscipline and Multiagency collaborative process: an individual working alone should not undertake it. It is best if a planning committee develops the facility emergency management plan.

The RVG has a OMT and emergency management committee internal and external that consist of the following members: (1) IPs, (2) physician/representative, (3) nursing administration, DON (4) security, (5) housekeeping, (6) central supply, (7) food and nutrition, (8) RVG administration, & Administrator (9) occupational health, (10) environmental health, (11) legal counsel/risk management, (12) public relations/public information officer, (13) medical staff, (14) human resources, (15) physical therapy, (16) respiratory therapy, (18) local law enforcement, (19) local FBI, (20) local emergency management services, and (21) public health representative. The external and internal communication plan for RVG has been formulated and updated based on the current Ministry Guidelines. It has been posted on RVG website (Please refer the checklist

OMT, COVID-19 preparedness, Outbreak management plan and IPAC emergency manual).

In the event of a mass casualty incident, these responding groups and agencies will need to work together; it is best to have these partnerships developed before such an event occurs to ensure a better outcome.
A facility emergency management plan must be a written plan that addresses issues including the following: (1) resource management (both staff and supplies), (2) communication systems/methods, (3) reporting structure, and (4) patient management.

COMMUNICABLE DISEASE REPORTING

Routine communicable disease reporting will need to continue during a mass casualty incident. In addition, certain communicable diseases may need to be reported in a timely manner during a disaster because of the risk of secondary spread.

For example, chickenpox or measles that occurs in a disaster- affected population should be reported to the public health department right away, as these diseases can result in rapid spread in crowded surroundings such in long term care homes and in communities.

The RVG reports communicable disease to Chatham Public Health Unit and take recommendations for further steps to prevent the transmission. This is led by IPAC lead and involves OMT.

RESOURCE MANAGEMENT

Resource management must be well planned to ensure the best allocation of resources during a mass casualty incident. This means planning for obtaining, allocating, and distributing resources during a mass casualty event. Resources include both staff and supplies necessary to effectively recognize and respond to all types of mass casualty incidents.
Does the facility have enough beds to accommodate a large surge in patients? Is there a large enough qualified staff to care for these patients? Are there adequate stocks of medical supplies, equipment, and pharmaceuticals to care for a large increase of patients? These questions must be addressed during facility emergency management planning to ensure the best response.

Resource assessment should take place as part of facility assessment.
The following are items that must be assessed:

- on-hand functional equipment,
- sources and quantities of backup equipment,
- on-hand pharmaceutical supplies,
- sources and quantities of backup pharmaceutical supplies,
- number of available staff,

- source and size of backup staff, and
- surge capacity of the facility.

Each event will pose unique challenges in terms of resources required. Some disasters, such as an earthquake or flood, will require physical plant resource needs, such as safe shelter, food, and water. Other mass casualty incidents may require different or additional resource needs, such as PPE, medications, and vaccines after a bioterrorism attack or pandemic. It is best to take an all-hazards approach to emergency management. The type of disaster that will occur cannot be predicted; therefore, a broad approach will help ensure a better response to any mass casualty incident.

The emergency management plan should address the possibility of prolonged loss of electricity, potable water, or another essential utility. How available resources will be assessed and maintained on an ongoing basis should be specified. **(Refer Emergency preparedness plan Manual in G drive -RVG).** During the response phase of a mass casualty event, resources will quickly become depleted. Utilizing prearranged memoranda of agreement between healthcare facilities and vendors should help alleviate scrambling for resources during the mass casualty incident**.**

RVG has created a Developing a Resource list for Emergency Preparedness/Disaster Planning

As the disaster response progresses, constant evaluation of resource stocks must be performed so that gaps may be quickly identified, and backup stocks may be obtained. IPs may have to assess available antibiotic prophylaxis or vaccination doses or amounts of PPE for isolation. They will also have to assess the amount of available drinking water and clean water for handwashing, hand hygiene products, bathing, linen management, equipment sterilization, dietary maintenance, dialysis, and toilet facilities. Another critical aspect of resource assessment during a mass casualty incident response is the assessing availability of sewage facilities to safely dispose of human waste.

Identification of an area of the home used for isolating residents and a process to divide staff and residents into cohorts

RVG has 6 floors, the residents units start from 2nd floor to 6th floor. Each floor is divided into two zones (East & West), accounting 10 units in the building. Each zones have care centers for staffs. Units on floors 2 to 6 will have 1 isolation room each (moving first index case when diagnosed) for isolating residents. The team in each floor consist of PSW, RPN, RN (In charge) and a Nurse Manager. A staffing contingency plan has been formulated to ensure the continuity of care for residents during the normal operation / and outbreak.

Each floor has a pandemic supply stocked with required PPE as mentioned in the ministry guidelines. There are vaccinations stored in the fridge in each floor and stocked, used whenever necessary.

Patient Placement and Isolation

Patient placement and isolation procedures are generally covered in a healthcare facility's routine policies. However, mass casualty incidents may prevent facilities from implementing routine standards such as placement in a private room for isolation.
At RVG, during any suspected / confirmed outbreak, based on the units/ location, the IPAC lead do the IPAC risk assessment and PCRA, before initiating the IPAC protocols as recommended by the Local Public health. After the risk assessment, if there is only one index case with no transmission or spread, that resident is isolated in the isolation room located in the long hall of each unit with additional precaution and PPE cart outside. PIDAC (Routine and Additional precaution in all Health care setting, 3rd Edition, November 2012). All IPAC measures are initiated, and consistent rounds are done to make sure all staff are adhering the outbreak IPAC measures to reduce the transmission.

Staff Cohorting

Staff cohorting practices should be used during outbreaks to reduce the potential for cross-infection between residents by limiting the number of staff interacting with individual residents. It will also reduce or limit the number of staff exposed to infected cases.

This includes:
• Designating staff to work in specific areas/units in the home as part of preparedness
• Designating staff to work only with COVID-19 positive residents in the event of suspect or confirmed outbreak
• Designating other staff to only work with COVID-19 negative resident.
• Separate staff groups to look after specific resident assignments to minimize exposure
• During outbreaks, if staffing levels cannot support the above, care should be done in a sequential fashion (care for negative residents first then move to suspected and confirmed residents).

During the suspected/ confirmed outbreak, the staff at RVG are cohorted for the first case index based on the location/ unit/ spread. The cohorted staff for the first index case and other residents if affected will stay in that unit, does not move to any other zones or unit. RVG follow guidelines and recommendation with their local public health. IPAC lead make sure to initiate all the outbreak measures in place including IPAC audits and advanced high touch area cleaning by the housekeeping staff.

The IPAC lead train and educate the staff, and caregivers onsite and whenever needed – IPAC training. Hand hygiene, PPE donning and Doffing, Staff room audits, high touch, and environmental audits etc. The IPAC lead do the rounds and make sure all staff are adhering to the IPAC protocols. Onsite corrections and recommendations are provided if any staff does not follow the appropriate IPAC measures. Self-assessment audits for Long-term care by done twice a week during any outbreak by the IPAC lead.

Staff are encouraged to dispose any PPE before exiting the unit. Example: Changing the disposable face shield.

Staffing contingency plans to ensure continuity of all required programs under the Act and regulation (Copy is with DON)

Staff Contingency Plan Staffing and Redeployment Measures Maintaining appropriate staffing is essential to providing a safe work environment for staff, and safe resident care. As the COVID-19 pandemic progresses, substantial staffing shortages have occurred due to a reduction in external care providers, staff exposures, illness, need to care for family members at home and refusal for work due to fear.

Long term care homes must be prepared for potential staffing shortages and have plans and processes in place to mitigate these. Communication of plans to staff is important to ensure a clear understanding of the key principles of containment of the virus and thus resident and staff safety. This plan provides homes with the ability to adjust the location of affected residents, staffing schedules and assignments proactively, should an outbreak occur. Cohorting and surge staffing (additional hours) are key components in homes' staffing contingency plans.

INFECTION PREVENTION PRIORITIES COMMON TO VARIOUS DISASTERS

Early Detection and Surveillance

Rapid detection of a disaster is crucial to a successful response. For all mass casualty incidents, the sooner the incident and at-risk patients are identified, the lower the likely morbidity, mortality, and cost. For all natural disasters and even traditional or chemical terrorism, there are immediate, obvious signs that something unusual has happened, ranging from damaged buildings in an earthquake to a huge influx of patients immediately after a chemical attack. Early detection strategies are necessary for infectious disease disasters, on the other hand, because these events may be more difficult to detect, such as a covert release of an aerosolized agent.

Surveillance
Surveillance after a mass casualty incident will likely be critical to decreasing costs, morbidity, and mortality associated with a disaster, depending on the type of event that occurred. This is especially true in the case of an infectious disease disaster, after which identification of new cases will be essential to save lives.
Infection prevention surveillance during mass casualty events must be maintained in a practical, feasible manner, even though the IP will probably be assigned to disaster-related duties.

Problems specific to the disaster must be detected, assessed, and acted on in a timely manner. Problems existing before the mass casualty incident must continue to be

monitored—for example, an outbreak of methicillin-resistant Staphylococcus aureus (MRSA) that began before the disaster.

Active surveillance initiated as part of mass casualty incident response is considered sentinel surveillance, and the primary goal is to quickly identify new cases. Surveillance programs implemented in response to a disaster are generally short term and end when the crisis ends or shortly thereafter.

Surveillance during the recovery period will most likely consist of a return to routine surveillance activities.
For instance, during recovery from a bioterrorism attack, facilities may choose to continue active surveillance for the causative agent disease (such as pneumonic plague or inhalational anthrax) until they are certain the outbreak is over. Ongoing active surveillance will most likely be needed after infectious disease disasters in order to continue to identify new cases.

Epidemiological Outbreak Investigation during Disaster Response and Recovery

Few mass casualty incidents require a large-scale infectious disease epidemiological investigation, but almost every disaster requires some form of investigation to identify those affected and track patient follow-up. Each mass casualty event is unique and will pose distinct differences in the investigation. Floods, hurricanes, and earthquakes will usually not require an infectious disease epidemiological investigation, though they may if respiratory, foodborne, or waterborne illnesses occur. An example of this was the extensive epidemiological investigation of the cholera outbreak following the 2010 earthquake in Haiti.

Infectious disease disasters, on the other hand, will likely require an extensive epidemiological investigation. In this situation, rapid identification of exposed individuals and initiation of prophylactic therapy or vaccination is essential to decreasing morbidity and mortality. An outbreak investigation would be warranted for any mass casualty incident that involves a communicable disease or one in which epidemiological information needs to be collected and analyzed, such as risk factor and outcome data.

The response phase is generally relatively short, and there is not sufficient time to establish and implement an epidemiological investigation (this occurs more frequently during the recovery phase).

Infection Prevention and Control Coverage

It is vital to maintain around-the-clock infection prevention coverage during a mass casualty incident, even if the facility's IPs will also have disaster-related duties to perform.

Hand Hygiene

Hand hygiene remains one of the most essential infection prevention procedures following a mass casualty incident. Hand hygiene must be available even if tap water supplies are disrupted and/or hand hygiene products become depleted.

RVG maintain a stockpile of hand hygiene products, including soap and alcohol- based hand rub (ABHR) products, or have a memorandum of agreement for obtaining additional supplies during a mass casualty event. In addition, access to clean water for hand washing should be a priority (Hand Hygiene). Each floor at RVG has access to hand hygiene station including ABHR. Hand hygiene audits are done and documented. Staffs are provided education on four moments of Hand hygiene and how to perform hand hygiene whenever needed and onsite.

Personal Protective Equipment (PPE)

Personal protective equipment (PPE) is a main source of protection for emergency and recovery workers. It is necessary to protect emergency response and recovery workers from physical, chemical, and biological hazards. There are many different types of emergencies, including flooding, fire, diseases, and structural collapse. Routes of exposure include inhalation, dermal contact, ingestion, or contact through mucous membranes. Therefore, PPE often includes respirators, eye protection, hearing protection, and protective clothing. Depending on the hazard, the recommendations on the use of PPE change. Some examples of PPE may include respirators, gloves, overalls, boots, and goggles.

RVG has a pandemic PPE supply rooms and stockpile of PPE in each unit. PPE audits are done regularly to assure sufficient stock are in place. PPE carts with PPE are readily available to staff working on the floors. Staff are educated and trained on regular basis to check the availability and stock up the PPE carts whenever needed. The PPE audits with expiry dates audits are done by the management team on daily basis. Documented and reviewed every week to identify gaps and fulfil them. Education and training are provided about How to Don/Doff with hand hygiene to staff during the orientation and onsite. Disciplinary actions are taken for repeated PPE violations. RVG adhere to Ministry of Health and Long -term Care IPAC guidelines and encourage all staff to follow the guidelines

Cohorting and Quarantine

Quarantine is another potential component of emergency management. It involves restricting individuals' movement as a means of preventing infection spread. Quarantine differs from isolation is that it restricts the movement of individuals who have a known or suspected exposure to an infectious disease or contagious individual but who are not yet showing signs of infection. Quarantine will likely only be needed during infectious

disease disasters. Cohorting is an essential IPAC component and RVG adhere to this whenever possible and also during any outbreak.

Occupational Health Issues
A process to manage symptomatic residents and staff, and Policies to manage staff who may be exposed to infectious disease

Most employee health decisions fall under the occupational health department. However, some employee health issues that arise during mass casualty incidents have infectious disease implications and must therefore have IP involvement. Examples include staff assignment to potentially contagious patients; cohorting of patients or staff; allocation of limited doses of anti-infective therapy, prophylaxis, or vaccination; and distribution of limited protective equipment.

RVG has a protocol in place to outline procedures for following up on staff work exposures; prophylaxis, or vaccination; and allocating PPE when supplies become insufficient or depleted. Staff at high risk from infection (i.e., Or immunocompromised individuals) and high-risk procedures (such as aerosolizing procedures during an outbreak of a droplet or airborne spread disease) should be identified as part of emergency management planning. Protocols should be developed that address how to decrease risk to these individuals, such as reassignment or furlough.

At RVG, should there be a pandemic risk or on day-to-day basis, screeners in the front door screen any staff/ resident/ visitors based on provincial ministry guidelines. If a person feels sick, or ill or show any signs and symptoms, they are not allowed in the building and requested to do testing based on Ministry guideline.
The staff who call for absences due to sickness or illness, are not allowed to work, recommended for testing with proof testing evidence, isolated for respective days based on diseases / infection and allowed to come for work – in consultation with IPAC lead / occupation health designate and Chatham Kent – Public health.

Please refer the manual for “COVID-19 Protocols for staff: Choose the column that describes you”.

Symptomatic residents at RVG (Please refer COVID-19 outbreak/ pandemic plan attached in the IPAC emergency preparedness manual)

Food and Water Safety

The most serious health hazard after most types of mass casualty incidents is the deterioration in environmental conditions, particularly in water supply and disposal of human wastes.
Water is essential for numerous healthcare facility functions. Drinking water must be available immediately. A minimum of 2 liters per person per day must be provided for both patients and workers. Water will also be needed for hand washing, bathing,

washing dishes, washing linen, sterilizing, cooking, dialysis, processing of scopes, hydrotherapy, flushing toilets, and other purposes

During emergency management planning, estimate the amount of water that would be needed to maintain patients, HCP, and necessary healthcare facility functions for a minimum of 3 to 5 days.

Backup water supplies should provide 25 gallons/day per patient. Federal agencies may be able to provide portable water purification systems and power generators. Determine how much water should be stored on-site, how much could be stored off-site, and how much could be obtained from outside resources at the time of the mass casualty event. Methods for gaining access to water resources should be described in the emergency management plan. Contracts or memoranda of agreement should be developed as part of the emergency management planning process.

If water quality is uncertain, it may be purified by (1) boiling for 1 minute, or (2) adding 1/8 teaspoon of bleach per gallon. Mix thoroughly and allow to stand for 30 minutes before using.
During the response phase, tap water should be tested immediately. The role of the individual authorized to assess the water quality should be specified in the emergency management plan. Whenever water quality is questionable, clearance should be obtained from public health officials before resuming use. If its appearance or pressure is different from usual, use should be restricted.

Communication regarding water safety will be essential to protect staff, visitors, and patients. New technologies now exist for treating existing water on-site rather than continuously transporting in bottled water, a practice that is more sustainable and affordable.

Food must be provided for all individuals who will remain on the premises, including quarantined individuals. Balanced meals are necessary to both physical and psychological health. During emergency management planning, food requirements needed for a mass casualty incident should be determined. Patients and staff must be included, and other groups (e.g., visitors who are present, clinic patients, and family members of the staff) should be considered.

As part of emergency management planning, the power supply to the dietary department should be assessed to ensure that food safety would be possible following a mass casualty event. At least one refrigerator and freezer should be on emergency power. Assess the adequacy of temporary lighting, if emergency power should be unavailable for an interval.

Review the emergency management plan for the dietary department
. It should specify the order in which food will be used to ensure food safety: (1) refrigerated food on hand, (2) food from unpowered freezers, and, lastly, (3) disaster reserve supplies. Plan to provide food for staff (and others as you choose) as soon as

the response phase begins. Available food provides both a psychological reassurance that the situation is under control and a physiologic calming effect from the stimulation of the parasympathetic nervous system, with resulting inhibition of the sympathetic nervous system.
During the mass casualty event response, food service practices must be monitored for basic sanitation. Monitor holding temperatures and the length of time food is held in the danger zone (45° F to 140° F).

Food that requires refrigeration that has been kept at room temperature for 2 or more hours or any food that has been kept for an hour or more in a room above 90° F should be discarded.
Contaminated food, most often associated with poor water safety, can result in high mortality
(Up to 40 percent) if diarrheal illness occurs.

Sewage and Sanitation

Trash pickup may not occur as scheduled following a mass casualty incident. The emergency management plan should identify areas for sanitary storage of solid waste as well as regulated medical waste until routine sanitation practices can be resumed. In addition, toilet facilities must be available with minimal delay during a disaster. The emergency management plan should specify both short-term and long-term plans for meeting this need.
The most critical information needed will be the function of the sewer system.

Earthquakes may break sewer lines; floods or hurricanes may overwhelm them. A fire or tornado would probably leave them intact. If sewer disruption is a possibility, define in the emergency management plan who will assess their function and how the results will be communicated. It is an urgent priority that toilets are not flushed if the sewers are broken, as this will result in a flood of heavily contaminated water at some unspecified location. Negotiate service contracts with a reliable chemical toilet company. Clarify whether the company can assist with disposal of wastes collected before their arrival. Decide how many units will be needed and where they will be placed, remembering that they must be accessible to the servicing trucks (a location near an outside drain is ideal).
Plan for temporary toilet facilities for the hours before the chemical toilets can be delivered.
There is no aesthetic solution to this problem, and all solutions have advantages and disadvantages. A few solutions include (1) three plastic bags in a bucket, (2) one small bag for one use only, and (3) commercial disposable urinals. The military solution of a trench is not suitable for urban environments.
Advantages to the three plastic bags in a bucket include using readily available materials and a quick setup. Tie each bag separately, and store used bags in a leak-proof container, such as a garbage can, until the chemical toilet company can collect them. Disadvantages are that they must be monitored to prevent overfilling and that this method is not pleasant. Addition of a gel powder could be considered.

Single-use small bags also use materials on hand and are a cleaner option. Disadvantages include requiring a large supply of bags, the danger of leakage, and storage of used bags.

Commercial disposable urinals can be used either individually or to fit commodes. These are relatively aesthetic but involve added expense. One disadvantage is that they must be preplanned and on-site before the disaster strikes.
If sewer disruption is likely, the emergency management plan should address whether the healthcare organization should remain in a building without this function. This is a factor to consider in making a decision on building evacuation. If sewers are intact, better alternatives are available, even if the water supply is interrupted.
Pouring a bucket of water down a toilet may allow temporary flushing when water service is not available, and the water used need not be clean. A crew could make rounds with a large can of water on a cart. This method works well but is labor intensive. One flush may be available in the system. The disadvantage with this is that it is often wasted early, and then is no longer available. Use toilets without flushing until better arrangements can be made. This is not aesthetic, but it is safe if the sewers are intact. Bedpans may be emptied into whatever container is in use for ambulatory people. Consider discarding heavily soiled bedpans if supplies permit. An alternative is to place the pan inside a large plastic bag before use, molding the bag inside the pan to form a liner that can be discarded after use.

Anti-Infective Therapy and Vaccination

Some mass casualty events, especially biological events, may require the use of anti-infective therapy or mass vaccination interventions. Vaccine-preventable diseases that are endemic to the area hit by disaster pose the biggest risk post disaster. For example, areas with endemic measles have experienced measles outbreaks in camps and shelters following natural disasters. It is important to consider mass immunization during a measles outbreak that occurs in a disaster-affected community (such as in a community evacuation shelter) or during an infectious disease disaster.

Programs designed to distribute mass treatment, prophylaxis, or vaccination in a short period of time require unique interventions. Sites used for mass distribution of anti-infective therapy or vaccination are known as PODs. Their success will be dependent on advance planning, coordination, and communication among many groups and agencies.
RVG has vaccination policy in place and in conjunction with Chatham- Kent Public health, RVG conduct onsite vaccination clinics for residents and staff as per time frame provided by Ministry of Health and Long-term care Act. RVG conduct vaccination educations onsite to encourage staff to take COVD-19 vaccinations especially for Booster doses.

Decontamination
Decontamination is the reduction or removal of chemical or biological hazardous agents. There are two means of decontamination: physical and chemical. Physical

decontamination includes removing the hazardous agent through physical means, such as washing, scrubbing, or rinsing. Chemical decontamination is the use of chemical agents to remove hazardous agents.
Decontamination may or may not be necessary after a mass casualty incident, depending on the following factors: (1) type of mass casualty event, (2) how soon the event is identified, and (3) source of concern (environment or patient). For most mass casualty incidents, patient decontamination will not be necessary. One exception to this is a chemical terrorism attack, following which rapid, appropriate patient decontamination will be necessary to decrease morbidity and mortality.

Patient Decontamination and PPE

Patient decontamination begins with the removal of contaminated clothing. If removal is indicated, patient clothing should be handled only by personnel wearing appropriate PPE and placed in an impervious bag to prevent further environmental contamination. Patient decontamination recommendations for biological terrorism are different from those for certain chemicals, such as blister agents, which may respond better to dry powder decontamination compounds.

After removal of contaminated clothing, patients should be instructed (or assisted, if necessary) to immediately shower with soap and water, to include the shampooing of hair. Potentially harmful practices, such as bathing patients with bleach solutions, are unnecessary and should be avoided. Clean water, saline solution, or commercial ophthalmic solutions are recommended for rinsing eyes. Another option is to use baby shampoo because it does not sting the eyes during rinsing. Special consideration must be made for elderly persons during patient decontamination. Warming blankets, heat lamps, warmers, and other such equipment must be on hand during patient decontamination procedures.

Environmental Decontamination

Environmental decontamination is the removal of chemical or biological hazards from inanimate objects. Although environmental decontamination will not be necessary for most types of mass casualty incidents, it may be required in some circumstances. Indoor environmental sources may require decontamination strategies following any type of mass casualty incident that results in flooding, overcrowded living conditions, or lack of clean water.

An example of this is the cleaning/disinfection of alternate care sites that is necessary following a mass casualty event. An environmental inspection and cleaning/disinfection will be needed before reopening a room, floor, or building after it has been closed for a length of time.

Environmental decontamination will also be necessary after any mass casualty incident that involves a hazardous or infectious agent that is spread by hand-to-hand contact or

contact with fomites. Some examples include a chemical terrorism event or bioterrorism attack using smallpox, anthrax, or a viral hemorrhagic fever agent.
Environmental decontamination in these circumstances includes the disinfection of all horizontal surfaces using a healthcare facility-approved EPA-registered product. The use of more stringent PPE may be needed for decontamination of surfaces contaminated by chemicals.
The Department of Defense website (http://www.defenselink.mil/) provides more information on decontamination strategies following a chemical terrorism attack.

Postmortem Care and Morgue Surge Capacity

In any disaster, some level of mortality is expected. Provisions must be made in advance for storage and/or transport of corpses. Most morgues can house no more than a dozen bodies. How will the facility handle a greater number of victims (i.e., have morgue surge capacity)? Consider planning an off-site location to be used as a temporary morgue and arrange for the services of a local mortician to handle transport of fatalities. Be sure that adequate supplies of body bags can be obtained. For most disasters, individual burial is preferred over cremation or mass burial. The risk of disease transmission from corpses to the living is very low after most disasters; exceptions would include victims who had cholera, smallpox, or viral hemorrhagic fever.

Pest Management

Natural disasters, especially hurricanes and floods, are likely to result in an increase in insects and other pests in or around the affected community due to rain and high-water levels. Healthcare facilities may become infested with insects and/or vermin seeking warmth, moisture, and food.
Some insects and animals may be bothersome only, but others can spread disease. Examples include the link between mice and hantavirus, or mosquitos and West Nile virus. Rodents, such as rats and mice, can spread disease by contaminating food and the environment or by biting/scratching humans. Pests can also invade medical supplies.

The following environmental controls should be implemented to minimize pests after disasters:
(1) store garbage and medical waste in closed containers located away from the facility,
(2) do not have open boxes or pipes within the facility as these can become nests or breeding grounds for pests, and
(3) obtain pest control services as needed, including spraying for mosquitos, or setting traps for mice. In addition, the facility's physical structure should be evaluated for any possible entrances for pests, and if found, should be eliminated. Examples include windows with torn or missing screens, unclosed doors that lead to the outside of the building, or sources of standing water.

Natural disasters may prevent routine garbage collection from occurring; delayed waste removal increases the risk for rodent infestation. To minimize this, food and water safety protocols should be implemented, including storing food and water in rodentproof lidded containers consisting of glass, thick plastic, or metal.

Healthcare agencies should develop protocols for safely capturing, killing, or eliminating rodents that get into the facility. Guidelines for developing these procedures are available from the Centers for Disease Control and Prevention (CDC).

Transportation

Transportation problems may affect a healthcare facility's ability to respond effectively to a mass casualty incident. Transportation routes need to be predetermined to allow patients, visitors, staff, and supplies to get where they need to be in a safe, rapid manner. A mass casualty event may bring large influxes of patients and the worried well, which can result in chaos if transportation routes are not predetermined. In addition, it is critical to predetermine alternative transportation routes for supplies. Temporary triage centers, ambulance entrances, and loading areas may be needed to accommodate the increased traffic. Transportation during a mass casualty incident can have infectious disease implications, so it is important to make sure that patient flow is constructed in a manner that decreases disease spread. An example is to set up separate triage areas for assessing potentially contagious people during an infectious disease disaster.

Communication and Reporting Systems (Refer internal and external communication list)

Communication refers to both the physical means of communicating information (radios, telephones, etc.) and the messages that are being communicated (risk communication). Healthcare facilities must maintain the ability to communicate between departments (internal communication) and with outside agencies (external communication) during a mass casualty incident. A backup communication system should be available in case the standard system becomes inoperable or overwhelmed. In addition, auxiliary power and secondary sites need to be established prior to an incident, and individuals need to be trained to use the communication system.

Consider keeping two-way radios where they will be needed, such as in security and the emergency department. Also consider the use of "disaster first response script cards" to describe first critical steps, such as location of all staff and patients, prevention of fire, and turning off of oxygen and nonessential electrical equipment to avoid the need to locate cumbersome manuals during the stress of first response. Posters are also an effective means to communicate disaster triage and patient management strategies and algorithms.

In the event of a mass casualty event, a facility's emergency management plan will be implemented in tandem with other local, state, and federal emergency management plans. A coordinated effort is essential, regardless of the number of casualties or agencies involved. Such coordination depends on effective internal and external communication.

Documentation

During a mass casualty event, sensory overload sets in within minutes, making it very difficult to take in and process information. Every individual responsible for emergency management should maintain a detailed log, beginning as soon as possible after the mass casualty incident and noting first the time of the disaster and what is immediately known. This log will be a priceless resource for sequencing events, tracking accountability for decisions, and writing reports. Some experienced professions consider keeping of the disaster log the single most useful piece of advice. Documentation is also vital for the facility to receive reimbursement for the event from federal funding.

Education and Training

Staff education and training is part of healthcare facility emergency management planning to ensure that the staff understands the basics about emergency management.

Topics include

- Types and consequences of mass casualty events,
- The facility's emergency management plan,
- Staff's role in the emergency management plan,
- How to recognize and respond to a mass casualty incident,
- Appropriate reporting and communication systems in place during disaster response, and
- How and when to practice disaster response strategies.

Education should be provided to all staff, both medical and support services employees, and should be specific to each worker group. Infection prevention competencies for hospital-based HCP have been identified, including competencies related to emergency management, and should be used as the basis for education and training

During a mass casualty event, it may be necessary to create and disseminate educational materials. Ideally, such disaster-related educational materials should be created during emergency management planning. If not, they must be created during or after the mass casualty incident to aid in response efforts.

The materials should be event specific. For example, in the event of a mass casualty event involving a contagious agent, such as a smallpox bioterrorism attack, they will need to address control and isolation measures, treatment requirements, and prophylaxis or vaccination recommendations.

Educational materials should also address how staff, patients, and visitors can protect themselves and their community during the response. Some of the information provided will concern

- water safety,
- sanitation control,
- proper food preparation (temperature control, etc.),
- agent-specific information (route of transmission, treatment, etc.),
- isolation precautions,
- prophylaxis,
- vaccination, and
- control measures.

This information should be communicated as simply as possible, using as little time commitment as possible because the IPs will most likely be tied up with other disaster-related duties. These quick educational messages may be accomplished through posters, pocket cards, or other written methods. Public health agencies are a valuable resource for educational materials, though their staffs will be strained by events as much as the rest of the community.

Education and training during the recovery period should focus on
(1) dissemination of information on the effectiveness of the disaster response,
(2) areas for improvement related to disaster response,
(3) changes/updates to the emergency management plan,
(4) ongoing infection prevention strategies, and
(5) results from data gathered during the epidemiological investigation when applicable.

Evaluating Preparedness

Evaluating preparedness is accomplished by evaluating the written emergency management plan and practicing the plan either through drills and exercises or from response to actual mass casualty incidents. Planning checklists have been created to aid in evaluation of the infection prevention components of written emergency management plans.

Emergency Management Plan Evaluation Following a Disaster/outbreak

Emergency management plans should be evaluated following response to any mass casualty event. This should be done after the crisis has dissipated from the event. How effective was the emergency management plan? Was staff familiar enough with the plan to implement it effectively? Were there facets of the plan that did not work as effectively as possible? Are there areas that can be improved before the next mass casualty incident strikes?
It is critical for the facility to hold a debriefing session in which all the responding departments and agencies discuss what was learned from the situation.

Furthermore, this information should be used to generate an after-action report. This will be greatly facilitated by the availability of any disaster logs that individuals or departments maintained during the mass casualty event. Once the lessons learned from the event have been discussed and documented, the emergency management plan must be updated. If a facility discovers during response to a mass casualty incident that more decontamination gear is needed and more staff should be educated in its use, this information should be incorporated into the after-action report. Thus, a facility might institute a mandatory quarterly drill for decontamination staff to practice donning protective gear and simulating the decontamination process.

Disaster Drills and tabletop exercises (Will be followed by RVG and documented)

Because most mass casualty events cannot be anticipated, most healthcare facilities and communities will need to conduct drills and exercises to evaluate their emergency management plan.
Disaster exercises/drills provide many benefits, including an opportunity to
(1) identify and correct gaps in planning,
(2) clarify participants' roles and responsibilities,
(3) enhance coordination with internal and external agencies,
4) demonstrate how to implement the plan, and
(5) introduce participants to the new reporting and communication structure.
Exercise programs can make the difference between a poor and an effective response, which translates into lives and resources saved.

To conduct a healthcare facility disaster drill/exercise, the following steps are involved: (1) develop objectives for an exercise (i.e., the components of the emergency management plan that are to
(2) conduct an exercise, during which the emergency management plan is practiced.
(3) discuss the findings of the exercise in relation to the identified objectives.
(4) identify gaps in preparedness as illustrated by the exercise.
(5) determine solutions to the gaps identified in the disaster exercise.
(6) update the emergency management plan based on the solutions delineated from the exercise; and
(7) educate the staff on the updates made to the emergency management plan. This process is then repeated, with the new emergency management plan and individuals' response behaviors being evaluated. This process must be well documented
.
Responses to all types of mass casualty events require practice, whether they are natural disasters, bombings, response to victims of chemical terrorism, or mass vaccination programs in the face of a bioterrorism attack. By exercising different aspects of the emergency management plan, staff readiness for responding to any type of mass casualty incident can be assessed. The drills should address situations involving lack of electricity, water, or normal communications. Backup systems for each of these should be tested. Various scenarios should be used during disaster drills, including traditional, biological, and chemical terrorism scenarios as well as pandemics and natural disasters.

Conclusion

Disasters and mass casualty events—whether caused by nature or man-made events—can have devastating consequences for public health and safety. IPs have a vital role in preparing for and responding to different types of mass casualty incidents. As experts in the fields of surveillance and epidemiology, they are responsible for investigating outbreaks and initiating interventions to prevent the transmission of infections before, during, and after mass casualty incidents.

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